

REMARKS/ARGUMENTS

Claims 23, 24, 28 and 30-32 now stand in the present application, claims 23, 28, 30 and 32 having been amended, and claims 33-36 having been canceled.

Reconsideration and favorable action is respectfully requested in view of the above amendments and the following remarks.

In the Office Action, the Examiner has rejected claims 23 and 28 under 35 U.S.C. § 102(e) as being anticipated by Shimada et al. In view of the above-described claim amendments, the Examiner's § 102(e) rejection of the claims is believed to have been overcome, as will be described in greater detail below.

In rejecting claim 23 as being anticipated by Shimada et al., the Examiner has provided a color coded version of the reference's Figure 7 at page 4 of the Office Action. The color coded version of Figure 7 clearly shows a ferroelectric thin film constructed of three layers including a lowermost layer B₁, an intermediate layer B₂ and an uppermost layer B₃. The color coded version of the Figure as does Figure 7 in Shimada et al. clearly shows that the lowermost layer has a crystal grain size smaller than the intermediate layer, but the uppermost layer shown in the Figure has a crystal grain size the same size (or larger) than the intermediate layer.

As noted above, claim 23 has been amended to now recite that the crystal grain of the uppermost layer is smaller than the crystal grain of the intermediate layer. Since this feature is not taught or suggested by Shimada et al., claim 23 as amended is believed to patentably define thereover.

Applicant has also amended claim 28 to recite that the lowermost layer is formed of uniform minute crystal grains having small pinhole size gaps therebetween. This

feature of Applicant's invention is clearly disclosed in the present specification at page 20, line 9 through page 21, line 17. Since Shimada et al., as shown in the Figure, has a lowermost layer that has relatively large gaps between the crystal grains it is respectfully submitted that claim 28 as amended patentably defines over Shimada et al.

The Examiner has also rejected claims 23-24, 28 and 30-36 under 35 U.S.C. § 103(a) as being unpatentable over Suzuki in view of Ogata et al. Applicant respectfully traverses the rejection.

In rejecting these claims the Examiner has also presented a color coded version of Figure 7 of Suzuki at page 5 of the Office Action. In the color coded Figure 7, the Examiner shows three intermediate layers marked as A_2 and being comprised of A_{2a} , A_{2b} and A_{2c} . The Examiner admits that Suzuki fails to teach that the crystal grain of the lowermost layer and/or the uppermost layer is smaller than the crystal grain of the intermediate layers. For this teaching, the Examiner cites to Ogata et al.

However, both Suzuki and Ogata et al. show that the intermediate layers can contact either the upper or lower electrodes. For example, with respect to the marked up drawing of Suzuki, submitted by the Examiner at page 5 of the Office Action, at the lower right hand side it can be seen that at least two crystal grains from the intermediate layer A_{2a} contact the lower electrode. In addition, there is shown at the center of the marked up drawing a further crystal grain (uncolored) which the Examiner appears to indicate is part of the layer A_{2b} which also contacts the lower electrode. The Examiner has also submitted a color coded version of Figure 1(d) of Ogata et al. at page 6 of the Office Action, and this color coded Figure clearly shows that the intermediate layer 8 contacts the upper electrode. Therefore, both Suzuki and Ogata et al. disclose

arrangements wherein the intermediate layers contact either the upper or lower electrodes.

Accordingly, in order to more clearly patentably define claims 30 and 32 over the combination of Suzuki and Ogata Applicant amended these claims to recite that the intermediate layers do not contact either the lower or upper electrodes. These limitations were already contained in claims 33-36, so these claims have been canceled. Since claims 23-24 and 28 already recited these limitations, the Examiner's rejection of these claims based on the combination of Suzuki and Ogata et al. is believed to be in error.

Therefore, in view of the above amendments and remarks, it is respectfully requested that the application be reconsidered and that all of claims 23, 24, 28 and 30-32, now standing in the application, be allowed and that the case be passed to issue. If there are any other issues remaining which the Examiner believes could be resolved through either a supplemental response or an Examiner's amendment, the Examiner is respectfully requested to contact the undersigned at the local telephone exchange indicated below.

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Respectfully submitted,

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